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BEFORE THE BOARD OF OIL, GAS AND MINING
DEPARTMENT OF NATURAL RESOURCES
STATE OF UTAH

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IN THE MATTER OF THE REQUEST FOR AGENCY ACTION BY PETITIONERS NORTH EMERY WATER USERS ASSOCIATION, HUNTINGTON-CLEVELAND IRRIGATION COMPANY, and CASTLE VALLEY SPECIAL SERVICES DISTRICT	:	POST-HEARING BRIEF OF DIVISION OF OIL, GAS & MINING
	:	DOCKET NO. 94-027
	:	CAUSE NO. ACT/015/025-93B

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INTRODUCTION

On May 20, 1991, Co-Op Mining Company received a renewal of its permit pursuant to Utah Admin. R. 645-303-230 (1994). That permit renewal, while challenged by the same Petitioners as in this matter, was not fully appealed and became final and unappealable thereafter. Utah Admin. R. 645-303-231 provides:

> A valid permit, issued pursuant to the State Program, will carry with it the right of successive renewal, within the approved boundaries of the existing permit, upon expiration of the term of the permit.

In determining whether to approve or deny the renewal of a permit, the opponent of the renewal carries the burden of proof. Utah Admin. R. 645-303-233.200 (1994).

On July 21, 1994, the Division of Oil, Gas and Mining ("DOGM") approved a Significant Permit Revision for mining in the tank seam within the existing permit area. This approval is the subject matter of the Petitioner's appeal to this Board (hereafter "Tank Seam Revision"). Pursuant to Utah Admin. R. 645-300-211 (1994), "within thirty days of the notification of the Division's decision for a permit change, any person with an interest which is or may be adversely effected may request a hearing on the reason for the decision in accordance with Utah Admin. R. 645-300-200." This the Petitioners have done.

Applicants for a permit change are required to "identify the proposed change or changes and include the information required under Utah Admin. R. 645-301 and R. 645-302, to the extent applicable to the proposed change or changes." (emphasis added). Utah Admin. R. 645-303-223 (1994). Where a permit change will result in an increase in the subsurface disturbed area in an amount of 15% or greater than the disturbed area under the approved Permit, the "Application for Permit Change must be categorized and processed as a Significant Permit Revision. . ." Utah Admin. R. 645-303-224 (1994).

A Significant Permit Revision must be "reviewed and processed by the Division in accordance with the requirements of the rules at R. 645-300-100 and R. 645-300-200 and the information requirement of R. 645-301 and R. 645-302 including requirements for notice of public participation and notice of decision." Utah Admin. R. 645-303-226 (1994). In other words, a Significant Permit Revision must provide information applicable to the proposed change which is subject to the review and

processing requirements of the administrative permitting procedures for a new permit, administrative and judicial review, and provide sufficient information relative to the proposed change to meet the requirements of Utah Admin. R. 645-301 and its subparts, including the opportunity for notice and public participation.

As this relates to the Tank Seam Revision approved by the Division on July 21, 1994, all requirements for permit applications are generally applicable to the extent of the change or changes from the approved Permit. There is no dispute that the only change from the approved Permit will be the mining of the tank seam approximately 250 feet above the existing, previously approved and permitted Blind Canyon seam.

By the admission and pleadings of the Petitioners, they are an entity with an interest which is or may be adversely effected solely because of their water rights in two springs described as the Birch Spring and the Big Bear Spring. The thrust of the Petitioner's Complaint is that the Permittee, Co-Op Mining Company and DOGM ("Respondents") have failed to comply with the information and analysis requirements at Utah Admin. R. 645-301-700 concerning hydrology. In particular, the Petitioners allege that the DOGM's assessment of the probable cumulative impacts of all anticipated coal mining and reclamation operations on the hydrologic balance in the cumulative impact area is flawed and inaccurate as it relates to the mining of the tank seam.

In other words, Petitioners allege that DOGM's assessment that mining in the tank seam will have no effect outside the permit area on Petitioner's springs is wrong. Therefore, the proper standard of review for the Board in this matter is to determine

whether or not the evidence before it justifies a finding that mining in the tank seam has been properly determined by the respondents to have no impact on the hydrologic balance in the cumulative impact area such that the proposed operation will prevent material damage to the hydrologic balance outside the permit area, in particular the interest of the Petitioners in Big Bear and Birch Springs.

The Division submits that the uncontroverted evidence before the Board demonstrates that there is essentially no water above, within, or immediately below the tank seam. Therefore, in the absence of any potential for impact to the hydrologic balance by mining the tank seam, all evidence directed at mining within the previously permitted Blind Canyon seam should be excluded as irrelevant and the Petitioner's application for relief be denied.

I. EVIDENCE CONCERNING THE TANK SEAM

Early on in these proceedings, Counsel for the Petitioners stated the thesis of their case. This thesis was carried throughout the entire two days of the Hearing and is best summarized in Counsel's own words.

> We're here today because we believe that if this Significant Revision to the Permit is allowed, we're going to experience these impacts. [contamination, diminution, or interruption of drinking, domestic, or residential water supply from a well or spring in existence prior to an application for surface coal mining or reclamation] We believe the evidence is already there, that some of these impacts are being experienced now. But the mine dewatering, if they continue to mine in the tank seam, will continue in the same method as is happening now. This law will continue to be violated without action by this Board. . . They're asking for a significant revision so they can continue mining in the same area, continue dewatering their mine in the same way they are dewatering their mine now . . . And just because we're having impacts now, the impacts aren't going to go away, they are going to be worse as we get into the tank seam, and continue because they continue every

> minute while we sit here. 300 gallons of water exit that aquifer, and it's going to happen every minute they are mining the tank seam. (emphasis added).

Transcript, page 21-22.

In the words of the Petitioner, mine dewatering will continue in the same method as is happening now. In other words, whether or not the tank seam is mined the mine will be dewatered in the same way. Both the Petitioner and Respondent are in agreement that no appreciable water will be encountered when mining the tank seam.

Co-Op Mining Company drilled eight holes into the tank seam from the Blind Canyon seam, which were distributed evenly across the permit area. Transcript, page 179, lines 15-16. Of the eight holes, one hole produced some drips and another hole flowed at .5 gallons per minute. The remainder of the holes produced no water. Transcript, page 179, lines 15-24 (P 2-13, Appendix 7-JPAP).

The limited evidence concerning the hydrology of the tank seam presented by Petitioner's expert, Mr. Bryce Montgomery, is found at page 112 of the transcript. In his testimony referring to Exhibit 11, he says:

> This seam right here, this black one here, would depict the tank seam that's proposed to be mined, and you can see that in this example no appreciable groundwater exists in the tank seam. There may be a little perched water that's worked its way down through the vertical fracture system and a small amount may be encountered. But below the tank seam you have the principal aquifer and the potentiometric surface sloping towards the canyon bottom, as I mentioned, as depicted on this cross-section.

Transcript, page 112, lines 15-25.

Referring to Exhibit 10, the bottom half of which was admitted for illustrative

purposes only, Mr. Montgomery testified that the potentiometric surface exists below both the tank seam and the Blind Canyon seam. Transcript, page 123, lines 23-25 and page 124, lines 1-25. Finally, both Petitioner's and Respondent's experts agree on a number of general conclusions from the 1981 Danielson, et al. Survey published by the USGS which concluded that:

1. Recharge to the Star Point/Blackhawk aquifer from infiltration in areas of outcrop is small;
2. "Subsidence has not been extensive and where water-bearing zones that overlie the Star Point/Blackhawk aquifer are perched, it is unlikely that mine dewatering induces greater re-charge to the ground water system. Neither is it likely under these conditions that the flow of springs that issue from the perched zones or the rate of natural downward leakage into the Star Point/Blackhawk aquifer are effected by mine dewatering." Transcript, pages 222-223.

In fact, as testified to by Respondent's expert, John Garr, the literature relied upon by Mr. Montgomery actually supports the conclusion of Respondent's experts much more strongly that the specific conclusions which Mr. Montgomery seeks to derive.

Concerning the interval below the tank seam, Mr. Montgomery premised his testimony concerning the effect of mining upon the facts as he understood them, which is:

> After they remove the coal from the face, they're going to move it down a ramp into the present workings where the Blind Canyon seam is being

mined now. So they are going to affect this interval between the Blind Canyon seam and the tank seam.

Transcript, page 113, lines 4-8.

It should be noted, however, that Mr. Montgomery erroneously assumed the existence of a ramp located somewhere in the north end of the mine. In actuality, as testified to by Co-Op's witness, Mr. Charles Reynolds, a bore hole eight feet in diameter presently exists which connects the surface adjacent to the tank seam outcrop with the Blind Canyon seam at a point near the entry to the Blind Canyon seam. Transcript, page 274, lines 18-25. Moreover, the sinking of the eight foot bore hole encountered no water seepage anywhere between the two elevations, even where it intercepted a minor fault. Transcript, page 274-275, lines 23-25, and 1-4.

Finally, Mr. Montgomery testified that in his opinion, mining of the tank seam would allow contaminants either from the surface, such as salt applied on roadways, to be conveyed downward by any water into the existing Blind Canyon workings. Mr. Montgomery did not differentiate the potential for this type of contamination from the future mining in the tank seam and the existing mining in the Blind Canyon seam. Moreover, in response to Mr. Lauriski's question concerning the ability of perched water to pass through the tank seam whether or not mining occurred, Mr. Montgomery testified:

> Well, if you've been in a coal mine, the floor is very well compacted. The joints that exist in the floor of the coal mine, once you get in there and work on it, you've got coal dust, you've got dust that's been introduced to suppress coal dust, you've got compaction by equipment working back and forth over it with water in it, and so you actually plaster the floor of the mine to where the permeability is greatly reduced for that water to enter back and go vertically down through the

formations beneath the mining operation. So you've interfered. You've damaged the permeability that existed naturally to allow that flow to go down through.

Transcript, page 126, lines 12-24.

The Petitioner can not have it both ways on the issue of permeability.

The remainder of Mr. Montgomery's testimony was directed towards existing mining within the Blind Canyon seam and his concern that the presently permitted mining operations would intercept and drain a "regional aquifer" intercepting water which he believed would otherwise appear as a form of recharge for the springs.

Two points must then be made about Mr. Montgomery's testimony. The first is that it concludes that continued operation in the permit area, regardless of whether or not the Tank Seam Revision is approved, is the source of the damage which the Petitioner's allege they have experienced and will continue to experience. Therefore, the relief sought by the Petitioners based on this theory of damage requires the Board not to act on the Petition concerning the Tank Seam Revision, but rather to cause mining within the Blind Canyon seam to be halted. Moreover, Petitioners seek an order for water presently leaving the mine to no longer leave the mine. No testimony was provided by the Petitioners as to how the cessation of mining at the Bear Canyon Mine would cause flows presently encountered within the mine to cease.

In fact, the Respondent's evidence, the Revised Hydrological Evaluation of the Bear Canyon Mine Permit and Proposed Expansion Areas dated April 26, 1993, and entered as Exhibit D at the Hearing, provides, at page 2-22:

After mining and associated dewatering/diversion operations cease, the

local piezometric surface will recover toward pre-mining conditions. Although inflows are expected to diminish and cease once the perched zones are drained, if inflows continue after mining is completed, the abandoned mine will not flood because the strata dip to the south southeast; natural flow through the subsided entries and drainage to the surface will prevent accumulation (flooding) in the mine. As shown maps of Bear (Blind) Canyon Seam structure and the 1990 water survey on (Plates 6-4 and 7-10A, respectively, of the M&RP) mine inflows originiating in the northern portions of the current mine and proposed expansion areas will be conveyed to the surface through the subsided entries and will ultimately discharge along the eastern limits of the mine, probably from the area of the present fan portal, which is the lowest-elevation coal outcrop in the lease area (7,440 feet). (emphasis added).

In other words, if Mr. Montgomery's thesis were correct; that the water encountered by the mining within the Blind Canyon seam is the result not of intercepting perched aquifers (as is the case of the tank seam), but is a result of intercepting the same piezometric surface which recharges the springs, the mine would continue to dewater after closure as provided for in the existing unchallenged permit.

Secondly, Mr. Montgomery's assumption that mining within the Bear Canyon seam is intercepting the same recharge as that which feeds the Birch and Bear Canyon Springs relies entirely on data which demonstrated that measured flows from these springs had decreased during the same period in time in which local precipitation had decreased, and upon generalized regional theories for the entire Wasatch Plateau. Mr. Montgomery was not able to point to a single source of localized data concerning the geology and hydrology of the permit area in support of his theory that a regional aquifer which provided recharge to the subject springs was

being drained by operations within the presently permitted Bear Canyon.[1]

Mr. Montgomery testified concerning Exhibit 11, which he introduced for illustrative purposes only, to show a generalized cross-section of the geology and hydrology of the Wasatch Plateau, and for the purpose of demonstrating that even he did not believe the tank seam would intercept a generalized regional aquifer. In addition, he relied on Exhibit 9, a generalized depiction of the geology for all of Huntington Canyon, as a complete map of "the most important geological hydrological features in this area, which demonstrate or support your [Mr. Montgomery] theory of what's going on with regard to mining and the subject springs." Transcript, page 120, lines 1-14. In fact, however, Mr. Montgomery testified that it did not illustrate the Blind Canyon fault, or any of the fracturing or joints near the mine and springs. Transcript, pp. 117-118.[2] Concerning the one exhibit prepared

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[1] Petitioner's attempted, but failed, to admit Exhibit 15 which stood for the proposition that a different spring known as Little Bear Spring could be used as a control to demonstrate the difference between pre-mining and post-mining conditions for the same hydrologic regime. While Exhibit 15 was never entered, it was pointed out by Respondent's expert, John Garr, that Little Bear could not act as a valid control because of its quick response to precipitation. Even Mr. Montgomery recognized that the rate of recharge on the Birch and Bear Canyon springs would not be sensitive to immediate precipitation. Mr. Montgomery, who stated that his opinions were in large part in reliance upon the Danielson, et al., 1981 USGS Open File Report, neglected the Danielson caveat that "care should be taken in selecting springs for monitoring. The discharge recession curves of springs that are supported by more than one water-bearing zone may not be similar from year to year because of non-conformity of recharge to different zones from year to year . . . ideally the monitoring of springs should be in conjunction with water level monitoring and observation wells, in order to detect recharge that may occur during the normal recession period that would alter the recession curve." Transcript, pages 215-217.

[2] Concerning Exhibit 9, Respondent's expert witness, the geologist Mr. John Garr, testified that the direction of movement on the Bear Canyon fault is incorrectly

by Mr. Montgomery which purports to depict the actual conditions on the ground, Exhibit 6 shows the entire Huntington Canyon drainage with no detail of the relevant area. In fact, it does not even label the relevant faults.

II. EVIDENCE THAT THE ENTIRE PERMIT AREA IS HYDROLOGICALLY ISOLATED FROM THE SURROUNDING SPRINGS INCLUDING BIG BEAR AND BIRCH SPRINGS.

The Petitioner's theories concerning a hydrological connection between the permit area and the source of the subject springs is based on generalized, area-wide studies with no geological evidence from the relevant areas. The Petitioner's exhibits are illustrative of a theory which shows uniformity throughout an entire geological regime yet relies for its conclusions on a fractured and jointed geology it has made no attempt to map or trace. This is beautifully illustrated by Petitioner's Exhibit 10 which is labeled as a "cross-section showing changes in flow through a uniformly permeable coal-bearing aquifer." Mr. Montgomery's entire theory of the case is that it is not a uniformly permeably coal-bearing aquifer. Petitioners have failed to provide any evidence which would accurately represent the nature of the potentiometric surface for either the permit area or the area surrounding the permit.

The closest Mr. Montgomery comes to addressing specific evidence of conditions within the permit area is his analyses of Earth Fax's In-mine Monitoring

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depicted. Where the map shows the movement as being up on the Bear Canyon or mine side, and down on the other side, the actual geological condition is that the movement is down on the Bear Canyon or mine side, and up on the other side for approximately 110 feet total movement. Moreover, it does not purport to show scale because Birch Canyon is actually 800 feet to the west of the non-depicted Blind Canyon fault. The importance of this fault is discussed at length on pages 212 and 213 of the Transcript and is discussed in greater detail later in this Brief.

Wells in the Star Point Sandstone. Mr. Montgomery does not dispute the evidence of three separate water levels measured in three separate tongues in the Star Point Sandstone which are not fully saturated. Transcript, page 155, lines 16-24. However, Mr. Montgomery refers to the data generated concerning the piezometric surface, aquifer pressure, and drill-core samples as an interpolation of shale beds. Transcript, page 156, lines 1 and 2. Therefore, he concludes, the groundwater is not precluded from moving through joints and faults. Moreover, Mr. Montgomery believes that if these joints did not exist, the water could not move downward and therefore would of necessity move laterally to the face of the cliffs and discharge at the rate of 300 to 500 gallons a minute. Transcript, page 156, lines 1-11.

What Mr. Montgomery conveniently overlooks, however, is not only his own testimony but the findings of Earth Fax's drill-hole analysis that:

1. The substantial flows encountered over the last several years were the result of now dewatered perched aquifers;
2. The insufficiency of saturation in the sandstone members to account for the quantity of discharged water presumed present by Mr. Montgomery (300 to 500 gallons a minute); and
3. Evidence of surface seepage as revealed in Earth Fax's reports.

In other words, the Respondents need not account for 300 to 500 gallons per minute of water from a perched aquifer moving through a not-fully-saturated series of sandstone aquifers. Additionally, each of the three aquifers has maintained a separate hydrologic head during in-mine testing. Petitioner's theory becomes

increasingly tenuous and shallow as it is extended to meet actual evidence from the field. Transcript, page 255, lines 23-25 and page 256, lines 1-25, page 257, lines 1-25.

Finally, Mr. Montgomery fails to address the evidence submitted by Earth Fax on behalf of Co-Op both to the Division and before this Board which because of the Blind Canyon fault barrier provide a basis for the water quality data which demonstrates that because of the Blind Canyon fault barrier the source of the springs and the water encountered in the mine is different. Transcript, page 266, lines 11-25, page 267, lines 1-15, page 287-294.

The above cited testimony is unrefuted. If water was coming from the permit area toward the springs as claimed by the Petitioner it would have to negotiate the Blind Canyon Fault. It would either be stopped or if open, conducted to the surface at the face of the fault. There is no spring at the fault.

Even if Petitioner's hypothetical flow crossed the fault and travelled the remaining 800 feet laterally, effects from mining would take two hundred years to become apparent.

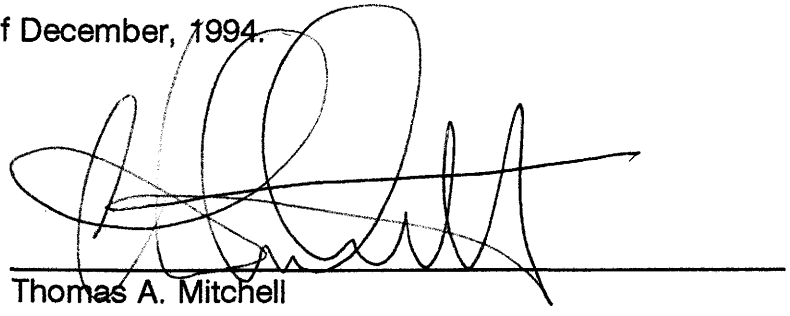
Mr. Montgomery not only failed to label the Blind Canyon seam on his maps, he failed to even include or acknowledge its effect. Transcript, Page 213, lines 4-19. Mr. Montgomery's theory is based upon a series of unknown, uncharted, and interpolated faults and fractures to explain a phenomena which he can not describe.

CONCLUSION

Because all of the Petitioner's evidence and argument concerning mining in the Blind Canyon seam is an attack upon an existing permit with a right-of-renewal, the burden of proof rests entirely upon the Petitioners to stop mining within the Blind Canyon seam. The Board has before it not only two days of testimony, but the detailed reports in the form of Exhibits C and D of Respondents, with which to make its determination whether it should revisit the existing permit rights of the Respondent. While it has been argued by Respondents that the Board may not review the present existing permit in the context of this hearing, the Board, nonetheless, has all the information in front of it relevant to the existing permit as submitted by the Permittee and the Petitioners.

The Board should find that as to the tank seam, the Respondents have carried their burden of proof concerning the absence of any hydrological effect from mining in the tank seam. If the Board does consider all the evidence in front of it concerning existing mining, it should find that as to the attack on the existing permit, the Petitioners have not met their burden of proof.

Submitted this 19th day of December, 1994.



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CERTIFICATE OF MAILING

I hereby certify that I caused a true and correct copy of the foregoing POST-HEARING BRIEF OF DIVISION OF OIL, GAS & MINING in Docket No. 94-027, Cause No. ACT/015/025-93B to be mailed by Certified mail, postage prepaid, on the 19th day of December, 1994, to the following:

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